

1999 SWIFT FOX SURVEY , FALL RIVER RANGER DISTRICT BUFFALO GAP
NATIONAL GRASSLAND, NEBRASKA NATIONAL FOREST

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INTRODUCTION

Surveys to determine locations of swift fox (*Vulpes velox*) were conducted on the Fall River District of the Buffalo Gap National Grassland from 1989 through 1998. Additional new areas were surveyed in 1999, as well as the only annual route established in 1994 that still shows evidence of a swift fox population.

SURVEY AREAS

The areas of Fall River County previously unsurveyed for swift fox that were surveyed in 1999 total 6,250 acres (Maps 1&2). The established annual route surveyed 2,720 acres (Map 3).

METHODS

Approximately 120 man-hours (including travel time) were spent establishing and utilizing bait stations. A bait station consists of a circular area 18 to 20 inches in diameter cleared of all vegetation. A mixture of fine masonry sand and vegetable oil is spread over the area and smoothed. The mixture consists of one cup of oil to one gallon of sand.

Approximately one-half ounce of jack mackerel is placed in the center of the station to serve as bait. Because of the swift fox's primarily nocturnal habits, the stations are baited during the early evening hours to decrease the time of drying and insure a high degree of scent dispersal.

This sand/oil mixture will hold a track impression quite well, and if insects such as grasshoppers and carrion beetles are not abundant enough to be disturbing the bait and sand, (through either digging or simply hopping through it), it is not necessary to check the sites early, but the slanting light of the early hours greatly facilitates in seeing details in the track.

Bait stations are placed approximately 1/4 mile apart, following ridge tops to give better scent dispersal on the evening downdrafts.

RESULTS AND DISCUSSION

The area newly surveyed in the Edgemont area (Maps 1&2) resulted in tracks of cottontail rabbit at 7 bait stations, striped skunk at 15, jackrabbit at 3, deer at 1, pronghorn at 1, American badger at 1, raccoon at 2, kangaroo rat at 1, and probable juvenile bobcat at 8-- from a total of 75 bait stations-nights. (Tables 1,2).

The annual survey in the Ardmore area (Map 3) resulted in swift fox tracks at 24 bait stations

over the three nights, out of a possible 93 bait station-nights, striped skunk at 1, and American badger at 2 (Table 1). The swift fox tally is down from 34 in 1998, up from 12 in 1997, but still down from the 45-50 for each of the 3 previous years. No swift fox tracks were found in the south half of the area, suggesting that that area is no longer used for denning. No active swift fox dens were found this year.

These results indicate that a population of swift fox is still present in the area, but may be reduced from the levels experienced several years ago. The area has had above normal rainfall for several years with accompanying increased vegetation. This could be a factor in survival due to decreased visibility, and therefore decreased ability to detect predators.

Richard Peterson, working for the South Dakota Department of Game, Fish and Parks in 1999, found swift fox tracks north and east of this survey area, indicating that there may be a larger population of swift fox, primarily on private ranchland.

Bait Station	Day 1	Day 2	Day 3
1	MEME		
2			
3			
4	TATA		
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17		TATA	
18			
19			
20			VUVE
21		VUVE	VUVE
22		VUVE	VUVE
23		VUVE	VUVE
24		VUVE	VUVE
25	VUVE	VUVE	
26		VUVE	VUVE
27		VUVE	VUVE
28	VUVE	VUVE	VUVE
29	VUVE	VUVE	VUVE
30	VUVE	VUVE	VUVE
31			

Table 1. Track on Ardmore Area swift fox survey route (Map 1) August 17, 18, 19, 1998.

VUVE - swift fox

TATA - American badger

MEME - striped skunk

Bait Station	Day 1	Day 2	Day 3
1			
2			
3		SYSP	
4			
5			
6	SYSP	SYSP	
7			
8		DIOR	
9			
10			
11			
12			
13	CALA		
14		SYSP	
15			
16			
17			
18			
19			
20			
21			
22		LETO	
23			
24	MEME		
25	MEME		

Table 2. Tracks on Edgemont survey area (North area) (Map 2) August 3, 4, 5, 1999.

MEME - striped skunk
LETO - white-tailed jackrabbit
SYSP - cottontail species
CALA - coyote
DIOR - Ord's kangaroo rat

Bait Station	Day 1	Day 2	Day 3
1			SYSP
2		MEME	
3			
4	ANAM		
5	SYSP	ODSP	
6			
7			
8			
9			
10			
11	MEME		
12	LETO		
13			
14	MEME	MEME	
15		MEME	MEME
16	MEME	MEME TATA	MEME,FESP
17		LETO	
18			PRLO
19			PRLO
20	SYSP		
21		FESP	FESP,SYSP,MEME
22	MEME	MEME	FESP
23		FESP	FESP
24	MEME,SYSP,FESP	FESP	FESP
25			

Table 3. Tracks on Edgemont survey area (South area) (Map 3) August 10, 11, 12, 1999.

- MEME - striped skunk
- TATA - American badger
- SYSP - cottontail species
- ANAM - pronghorn antelope
- LETO - white-tailed jackrabbit
- PRLO - raccoon
- ODSP - deer species
- FESP - cat species, probably juvenile bobcat